

## Amendments to the Claims

This listing of claims replaces all prior versions and listings of claims in the application:

### 1-15. **(Canceled)**

16. **(Currently Amended)** A method for treating a mammal suffering from ~~a localized bacterial infection, a bacterial related disease, or both periodontal disease~~, comprising locally administering ~~by injection in the proximity of the periodontal disease~~ a therapeutically effective amount of a composition comprising at least one granulocyte-macrophage-colony stimulating factor (GM-CSF) polypeptide  
~~wherein the bacterial infection or bacterial related disease is selected from periodontal disease or sinusitis.~~

### 17. **(Canceled)**

18. **(Previously Presented)** The method of claim 16, wherein the periodontal disease is gingivitis or periodontitis.

### 19-20. **(Canceled)**

21. **(Currently Amended)** The method of claim 16, wherein the composition is ~~suitable for administration via injection administered by injection through the mucosal lining of the gingival gingiva~~ or by application in a periodontal pocket.

22. **(Previously Presented)** The method of claim 16, wherein said GM-CSF is present in the composition in a unit dosage amount of 5 µg to 800 µg.

23. **(Previously Presented)** The method of claim 22, wherein the unit dosage amount is 50 µg to 100 µg.

24. **(Previously Presented)** The method of claim 16, wherein the composition is administered at intervals ranging from once a day to once every third week.
25. **(Previously Presented)** The method of claim 16, wherein the composition is administered a total of 1 to 3 times for a period of one week.
26. **(Previously Presented)** The method of claim 16, wherein the composition comprises a therapeutically effective amount of at least one other active ingredient.
- 27-31. **(Canceled)**
32. **(New)** The method of claim 16, wherein the composition is administered by injection into the alveolar mucosa.
33. **(New)** The method of claim 16, wherein the composition is administered by injection into the sublingual mucosa.
34. **(New)** The method of claim 16, wherein the composition is administered by injection into the palate part.
35. **(New)** The method of claim 16, wherein the composition is administered by injection between the periosteum of the alveolar bone and the alveolar mucosa, and wherein a needle used for injection is inserted into a flexible oral muscosa region adjacent to the gingiva
36. **(New)** The method of claim 16, wherein the mammal is a human
37. **(New)** A method for inducing tooth calcification in a mammal, comprising locally administering by injection in the proximity of the periodontal disease a therapeutically effective

amount of a composition comprising at least one granulocyte-macrophage-colony stimulating factor (GM-CSF) polypeptide.

38. (New) The method of claim 37, wherein said GM-CSF is present in the composition in a unit dosage amount of 5 µg to 800 µg.

39. (New) The method of claim 38, wherein the unit dosage amount is 50 µg to 100 µg.

40. (New) The method of claim 37, wherein the composition is administered at intervals ranging from once a day to once every third week.

41. (New) The method of claim 37, wherein the composition is administered a total of 1 to 3 times for a period of one week.

42. (New) The method of claim 37, wherein the composition comprises a therapeutically effective amount of at least one other active ingredient.

43. (New) The method of claim 37, wherein the composition is administered by injection through the mucosal lining of the gingiva or by application in a periodontal pocket.

44. (New) The method of claim 37, wherein the composition is administered by injection into the alveolar mucosa.

45. (New) The method of claim 37, wherein the composition is administered by injection into the sublingual mucosa.

46. (New) The method of claim 37, wherein the composition is administered by injection into the palate part.

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47. **(New)** The method of claim 37, wherein the composition is administered by injection between the periosteum of the alveolar bone and the alveolar mucosa, and wherein a needle used for injection is inserted into a flexible oral mucosa region adjacent to the gingiva.

48. **(New)** The method of claim 37, wherein the mammal is a human.